

CLAIMS

1. A multi-speed transmission comprising:

an input shaft;

an output shaft;

5 first, second and third planetary gear sets each having first, second and third members;

said input shaft being continuously interconnected with a member of said planetary gear sets, and said output shaft being continuously interconnected with another member of said planetary gear sets;

10 a first interconnecting member continuously interconnecting said first member of said first planetary gear set with said first member of said second planetary gear set and with said first member of said third planetary gear set;

said second member of said first planetary gear set being continuously connected with a stationary member;

15 a first torque-transmitting mechanism selectively interconnecting a member of said first planetary gear set with a member of said second or third planetary gear set;

a second torque-transmitting mechanism selectively interconnecting a member of said second planetary gear set with a member of said third planetary gear set;

20 a third torque-transmitting mechanism selectively interconnecting a member of said third planetary gear set with a member of said first or second planetary gear set;

a fourth torque-transmitting mechanism selectively interconnecting a member of said first, second or third planetary gear set with another member of said first, second or third planetary gear set;

25 a fifth torque-transmitting mechanism selectively interconnecting a member of said first or third planetary gear set with another member of said first, second or third planetary gear set, or with said stationary member;

a sixth torque-transmitting mechanism selectively interconnecting a member of said second or third planetary gear set with another member of said first, second or third planetary gear set, or with said stationary member; and

30 a seventh torque-transmitting mechanism selectively interconnecting a member of said first, second or third planetary gear set with another member of said first, second or third planetary gear set, or with said stationary member;

said torque-transmitting mechanisms being engaged in combinations of two to establish at least eight forward speed ratios and at least one reverse speed ratio between said
35 input shaft and said output shaft.

2. The transmission defined in claim 1, wherein said first, second, third, fourth, fifth, sixth and seventh torque-transmitting mechanisms comprise clutches.

3. The transmission defined in claim 1, wherein said first, second, third, fourth, fifth and sixth torque-transmitting mechanisms comprise clutches, and said seventh torque-transmitting mechanism is a brake.

4. The transmission defined in claim 1, wherein said first, second, third, fourth and fifth torque-transmitting mechanism comprise clutches and said sixth and seventh torque-transmitting mechanism comprise brakes.

5. The transmission defined in claim 1, wherein said first, second, third and fourth torque-transmitting mechanism comprise clutches, and said fifth, sixth and seventh torque-transmitting mechanism comprise brakes.

6. The transmission defined in claim 1, wherein planet carrier assembly members of each of said planetary gear sets are single-pinion carriers.

7. The transmission defined in claim 1, wherein at least one planet carrier assembly member of said planetary gear sets is a double-pinion carrier.

8. A multi-speed transmission comprising:

an input shaft;

an output shaft;

5 a planetary gear arrangement having first, second and third planetary gear sets, each planetary gear set having first, second and third members;

said input shaft being continuously interconnected with a member of said planetary gear sets, and said output shaft being continuously interconnected with another member of said planetary gear sets;

10 a first interconnecting member continuously interconnecting said first member of said first planetary gear set with said first member of said second planetary gear set and with said first member of said third planetary gear set;

said second member of said first planetary gear set being continuously connected with a stationary member; and

15 seven torque-transmitting mechanisms for selectively interconnecting said members of said planetary gear sets with said stationary member or with other members of said planetary gear sets, said seven torque-transmitting mechanisms being engaged in combinations of two to establish at least eight forward speed ratios and at least one reverse speed ratio between said input shaft and said output shaft.

9. The transmission defined in claim 8, wherein a first of said seven torque-transmitting mechanisms is operable for selectively interconnecting a member of said first planetary gear set with a member of said second or third planetary gear set.

10. The transmission defined in claim 8, wherein a second of said seven torque-transmitting mechanisms is operable for selectively interconnecting a member of said second planetary gear set with a member of said third planetary gear set.

11. The transmission defined in claim 8, wherein a third of said seven torque-transmitting mechanisms is operable for selectively interconnecting a member of said third planetary gear set with a member of said first or second planetary gear set.

12. The transmission defined in claim 8, wherein a fourth of said seven torque-transmitting mechanisms is operable for selectively interconnecting a member of said first, second or third planetary gear set with another member of said first, second or third planetary gear set.

13. The transmission defined in claim 8, wherein a fifth of said seven torque-transmitting mechanisms is operable for selectively interconnecting a member of said first or third planetary gear set with another member of said first, second or third planetary gear set or with said stationary member.

14. The transmission defined in claim 8, wherein a sixth of said seven torque-transmitting mechanisms is operable for selectively interconnecting a member of said second or third planetary gear set with another member of said first, second or third planetary gear set, or with said stationary member.

15. The transmission defined in claim 8, wherein a seventh of said seven torque-transmitting mechanisms is operable for selectively interconnecting a member of said first, second or third planetary gear set with another member of said first, second or third planetary gear set, or with said stationary member.

16. The transmission defined in claim 8, wherein planet carrier assembly members of each of said planetary gear sets are single-pinion carriers.

17. The transmission defined in claim 8, wherein at least one planet carrier assembly member of said planetary gear sets is a double-pinion carrier.